

CLAIMS

The invention is claimed as follows:

1. A coating apparatus for applying a coating to a section of a part,
5 said apparatus comprising:
support means for supporting the part;
means positioned adjacent to the support means for applying a
coating to the section of the part;
means positioned adjacent to the support means for measuring
10 the section of the part; and
means for controlling the coating means and measuring means,
said controlling means operable to cause the measuring means to measure a
dimension of the section of the part being coated while causing the coating
means to continue to apply an amount of coating to the section of the part
15 based on said measurements and desired dimension of the section of the part.
2. The apparatus of Claim 1, wherein the support means includes a
part support.
- 20 3. The apparatus of Claim 2, which includes at least one shield
connected to the part support.
4. The apparatus of Claim 1, wherein the support means includes a
conveyor.
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5. The apparatus of Claim 1, wherein the coating means includes a
sprayer.
6. The apparatus of Claim 1, wherein the coating means includes a
30 plurality of sprayers.

7. The apparatus of Claim 6, which includes a coating communication line and an air communication line connected to each of the sprayers.

5 8. The apparatus of Claim 1, wherein the measuring means includes a laser generator and a laser receiver, said laser generator positioned adjacent to one side of the support means and said laser receiver positioned adjacent to an opposing side of the support means.

10 9. The apparatus of Claim 8, wherein the laser generator and laser receiver are each mounted in a housing.

10. The apparatus of Claim 9, wherein the housings each include a transparent member connected to said housing.

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11. The apparatus of Claim 10, wherein each transparent member is removably connected to the housing.

12. The apparatus of Claim 11, which includes an excess coating
20 reducer positioned adjacent to the transparent member of each housing.

13. The apparatus of Claim 1, which includes a display device in communication with the control means and operable to display the measurements of the section of the part.

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14. The apparatus of Claim 13, wherein the display device is operable to display at least one of the dimensional tolerance for the section of the part.

30 15. The apparatus of Claim 1, which includes an exhaust duct positioned adjacent to the support means.

16. The apparatus of Claim 1, wherein the control means controls the support means.

17. A coating apparatus for applying a coating to a section of a part,
5 said apparatus comprising:

a part support;

a sprayer positioned adjacent to the part support;

a part measurer positioned adjacent to the part support; and

a processor which controls sprayer and part measurer to
10 measure a dimension of the section of a part supported by the part support
and being coated while causing the sprayer to apply an amount of coating to
the section of the part based on said measurements and desired dimension of
the section of the part.

18. The apparatus of Claim 17, wherein the part support includes a
15 conveyor.

19. The apparatus of Claim 17, wherein the part support is controlled
by the processor.

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20. The apparatus of Claim 17, which includes a display device
controlled by the processor and operable to display the measurements of the
section of the part.

21. The apparatus of Claim 17, which includes a coating
25 communication line and an air communication line connected to the sprayer.

22. The apparatus of Claim 17, wherein the part measurer includes a
laser generator and a laser receiver, said laser generator positioned adjacent
30 to one side of the part support and said laser receiver positioned adjacent to
an opposing side of the part support.

23. The apparatus of Claim 22, wherein the laser generator and laser receiver are each mounted in a housing.

24. The apparatus of Claim 23, wherein each housing includes a transparent member connected to said housing.

25. The apparatus of Claim 24, which includes an excess coating reducer positioned adjacent to the transparent member of each housing.

26. The apparatus of Claim 17, which includes an exhaust duct positioned adjacent to the part support.

27. A coating apparatus for applying a coating to a section of a part, said apparatus comprising:

a part support;
a sprayer positioned adjacent to the part support;
a part measurer including a laser generator and a laser receiver positioned on opposing sides of the part support;
an exhaust duct positioned adjacent to and on an opposing side of the part support from the sprayer;
a display device; and
a processor operable with the sprayer, part measurer, and display device to simultaneously measure a dimension of the section of a part supported by the part support and being coated, display the measurements to an operator, cause the sprayer to apply an amount of coating to the section of the part based on the measurements and desired dimension of the section of the part and exhaust excess coating from the sprayer that does not adhere to the part.

28. The apparatus of Claim 27, wherein the part support includes a conveyor.

29. The apparatus of Claim 27, wherein the processor is operable to cause the display device to display at least one dimensional tolerance level for the section of the part.

5 30. The apparatus of Claim 27, wherein the processor controls the part support.

31. A coating apparatus for applying a coating to a section of a part, said apparatus comprising:

10 a part support;
 a plurality of sprayers positioned adjacent to the part support;
 a part measurer positioned adjacent to the part support; and
 a processor operable with the sprayers and part measurer to
15 measure a dimension of a section of a part supported by the part support and
 being coated while causing the sprayers to apply an amount of coating to the
 section of the part based on said measurements and desired dimension of the
 section of the part.

32. The apparatus of Claim 31, which includes a coating
20 communication line and an air communication line connected to each of the
 sprayers.

33. The apparatus of Claim 31, wherein the part measurer includes a
laser generator and a laser receiver.

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34. The apparatus of Claim 31, wherein the processor controls the part support.

35. A coating apparatus for applying a coating to a section of a part, said apparatus comprising:

a part support;

at least one sprayer positioned adjacent to the part support;

5 a part measurer;

a display device;

a processor operable with sprayer, the part measurer, and display device to simultaneously measure a dimension of the section of a part supported by the part support and being coated, display the measurements and an upper dimensional tolerance limit on the display device, and cause the
10 sprayer to apply an amount of coating to the section of the part based on the measurements and the upper dimensional tolerance limit of the section of the part.

15 36. The apparatus of Claim 35, wherein the processor is operable to control the part support.

37. The apparatus of Claim 35, wherein the part measurer includes a laser generator and a laser receiver.